

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/051234

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12M1/113 C12M1/16 C12N1/14 C12R1/645

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12M C12N C12R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, COMPENDEX, PAJ, BIOSIS, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GUTIERREZ-CORREA MARCEL ET AL: "Mixed culture solid substrate fermentation of <i>Trichoderma reesei</i> with <i>Aspergillus niger</i> on sugar cane bagasse" BIORESOURC TECHNOL; BIORESOURCE TECHNOLOGY MAY 1999 ELSEVIER SCI LTD, EXETER, ENGL, vol. 68, no. 2, May 1999 (1999-05), pages 173-178, XP001204371 the whole document ----- -/--	1-15, 17-19

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

25 April 2005

Date of mailing of the international search report

09. 05. 2005

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MADAMWAR D ET AL: "FORMATION OF CELLULASES BY CO-CULTURING OF TRICHODERMA-REESEI AND ASPERGILLUS-NIGER ON CELLULOSIC WASTE" WORLD JOURNAL OF MICROBIOLOGY AND BIOTECHNOLOGY, vol. 8, no. 2, 1992, pages 183-186, XP009041572 ISSN: 0959-3993 the whole document	1-15, 17-19, 22-24
X	CASTILLO MARIA R ET AL: "Mixed culture solid substrate fermentation for cellulolytic enzyme production" BIOTECHNOLOGY LETTERS, vol. 16, no. 9, 1994, pages 967-972, XP009041573 ISSN: 0141-5492 the whole document	1-15, 17-19
X	WO 02/088342 A (KAMATH JYOTHI ANANTHA ; RANGANATHAN LAKSHMI (IN); BIOCON INDIA LTD (IN) 7 November 2002 (2002-11-07) the whole document	1-15, 17-19
A	ALAM MD ZAHANGIR ET AL: "Bioconversion of domestic wastewater sludge by immobilized mixed culture of Penicillium corylophilum WWZA1003 and Aspergillus niger SCahmA103" ARTIFICIAL CELLS BLOOD SUBSTITUTES AND IMMOBILIZATION BIOTECHNOLOGY, vol. 30, no. 4, July 2002 (2002-07), pages 307-318, XP008016282 ISSN: 1073-1199	
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 25, 12 April 2001 (2001-04-12) & JP 2001 231551 A (KONDO TAKASHI; HARADA CHIHIRO; HIRANO MINORU), 28 August 2001 (2001-08-28) abstract -& DATABASE WPI Section Ch, Week 200170 Derwent Publications Ltd., London, GB; Class B04, AN 2001-609958 XP002325971 & JP 2001 231551 A (HARADA C) 28 August 2001 (2001-08-28) abstract	20-22
A	EP 1 258 741 A (BAYER AG) 20 November 2002 (2002-11-20) the whole document	20-22
-/-		

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International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 140 723 A (MULTIBIO SA) 8 May 1985 (1985-05-08) the whole document -----	25-31
X	EP 0 225 479 A (KELLER & BOHACEK GMBH) 16 June 1987 (1987-06-16) cited in the application the whole document -----	25-31
X	US 5 773 526 A (FABER JELLE ET AL) 30 June 1998 (1998-06-30) the whole document -----	25-31
X	DE 41 19 798 A (VOSS ADOLF PROF DIPL ING ; ROEHRING KARSTEN (DE); ROEHRING KLAUS (DE);) 17 December 1992 (1992-12-17) the whole document -----	25-31
X	DE 196 24 268 A (HERHOF UMWELTTECHNIK GMBH) 10 April 1997 (1997-04-10) the whole document -----	25-31
X	DE 295 20 618 U (SCHMACK BIOGAS GMBH) 2 May 1996 (1996-05-02) the whole document -----	25-31

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International application No.
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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-15,17-19,22-24

A culture method for producing a defined enzyme mixture
and/or metabolite mixture and a method for the cultivation
of microorganisms at equal growth rates

2. claims: 16,20,21

A method for the conservation of enzyme mixtures produced in
a solid state fermentation

3. claims: 25-31

Bioreactor

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Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 02088342	A	07-11-2002	WO 02088342 A1	07-11-2002
JP 2001231551	A	28-08-2001	NONE	
EP 1258741	A	20-11-2002	DE 10124042 C1 EP 1258741 A2	02-01-2003 20-11-2002
EP 0140723	A	08-05-1985	FR 2550420 A1 EP 0140723 A1	15-02-1985 08-05-1985
EP 0225479	A	16-06-1987	DE 3539875 A1 EP 0225479 A2 ES 2003166 A6 YU 152287 A1 YU 190086 A1	14-05-1987 16-06-1987 16-10-1988 31-08-1988 31-08-1988
US 5773526	A	30-06-1998	NL 9401454 A AU 3232095 A BR 9508893 A CN 1158635 A ,C DE 69510679 D1 DE 69510679 T2 EP 0779920 A1 JP 10504967 T WO 9607726 A1	01-04-1996 27-03-1996 18-11-1997 03-09-1997 12-08-1999 23-03-2000 25-06-1997 19-05-1998 14-03-1996
DE 4119798	A	17-12-1992	DE 4119798 A1 WO 9222633 A1	17-12-1992 23-12-1992
DE 19624268	A	10-04-1997	CH 688737 A5 DE 19624268 A1	13-02-1998 10-04-1997
DE 29520618	U	02-05-1996	DE 29520618 U1	02-05-1996